AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

Listing of Claims:

Claim 1 (Original): A piezoelectric resonant filter having frequency characteristic exhibiting a low frequency side attenuation extremum and a high frequency side attenuation extremum arranged on opposite sides of a pass band, said piezoelectric resonant filter comprising:

a plurality of thin-film piezoelectric resonators, each including a piezoelectric thin film having piezoelectric characteristic, and a pair of excitation electrodes disposed on opposite surfaces of said piezoelectric thin film for applying an excitation voltage to said piezoelectric thin film,

wherein a rate of frequency change in accordance with temperature change at a first frequency at which said low frequency side attenuation extremum appears is different from that at a second frequency at which said high frequency side attenuation extremum appears.

Claim 2 (Original): A piezoelectric resonant filter according to Claim 1, wherein said plurality of thin-film piezoelectric resonators are a combination of at least one series resonator and at least one parallel resonator for forming a ladder-type filter circuit;

said series resonator exhibits said high frequency side attenuation extremum whereas said parallel resonator exhibits said low frequency side attenuation extremum;

at least one of said series resonator and said parallel resonator has a temperature compensating layer for bringing the rate of resonant frequency change in accordance with temperature change close to zero; and

thickness of said temperature compensating layer in said series resonator is different from thickness of said temperature compensating layer in said parallel resonators.

Claim 3 (Original): A piezoelectric resonant filter according to Claim 2, wherein said temperature compensating layer is made of silicon dioxide.

Claim 4 (Original): A piezoelectric resonant filter according to Claim 2, wherein each of said thin-film piezoelectric resonators further includes an acoustic multi-layer film having a plurality of layers different in acoustic impedance and disposed on a surface of one of said excitation electrodes opposite to said piezoelectric thin film so that said excitation electrode is sandwiched between said acoustic multi-layer film and said piezoelectric thin film.

Claim 5 (Original): A piezoelectric resonant filter according to Claim 4, wherein part of said plurality of layers in said acoustic multi-layer film serves as part of said temperature compensating layer.

Claim 6 (Currently Amended): A duplexer connected to an antenna, comprising:

a transmission filter for passing a transmission signal but cutting off a reception signal, said transmission filter having frequency characteristic exhibiting a first low frequency side attenuation extremum and a first high frequency side attenuation extremum arranged on opposite sides of a first pass band; and

a reception filter for passing the reception signal but cutting off the transmission signal, said reception filter having frequency characteristic exhibiting a second low frequency side attenuation extremum and a second high frequency side attenuation extremum arranged on opposite sides of a second pass band different from said first pass band;

said transmission filter as at least one of said transmission filter and said reception filter includes a plurality of thin-film piezoelectric resonators, each of said thin-film

piezoelectric resonators having a piezoelectric thin film having piezoelectric characteristic, and a pair of excitation electrodes disposed on opposite surfaces of said piezoelectric thin film for applying an excitation voltage to said piezoelectric thin film; and

the rate of frequency change in accordance with temperature change at a frequency which is one nearer to said second pass band out of a frequency exhibiting said first low frequency side attenuation extremum and a frequency exhibiting said first high frequency side attenuation extremum is lower than the rate of frequency change in accordance with temperature change at the other frequency exhibiting the other attenuation extremum.

Claim 7 (Original): A duplexer according to Claim 6, wherein said plurality of thin-film piezoelectric resonators in said transmission filter are a combination of at least one series resonator and at least one parallel resonator for forming a ladder-type filter circuit;

said series resonators exhibits said first high frequency side attenuation extremum whereas said parallel resonators exhibits said first low frequency side attenuation extremum;

at least one of said series resonator and said parallel resonator has a temperature compensating layer for bringing the rate of resonant frequency change in accordance with temperature change close to zero; and

the thickness of said temperature compensating layer in said series resonator is different from the thickness of said temperature compensating layer in said parallel resonator.

Claim 8 (Original): A duplexer according to Claim 7, wherein said temperature compensating layer is made of silicon dioxide.

Claim 9 (Original): A duplexer according to Claim 7, wherein each of said thin-film piezoelectric resonators further includes an acoustic multi-layer film having a plurality of

layers different in acoustic impedance and disposed on a surface of one of said excitation electrodes opposite to said piezoelectric thin film so that said excitation electrode is sandwiched between said acoustic multi-layer film and said piezoelectric thin film.

Claim 10 (Original): A duplexer according to Claim 9, wherein part of said plurality of layers in said acoustic multi-layer film serves as part of said temperature compensating layer.

Claim 11 (Currently Amended): A duplexer connected to an antenna, comprising:

a transmission filter for passing a transmission signal but cutting off a reception signal, said transmission filter having frequency characteristic exhibiting a first low frequency side attenuation extremum and a first high frequency side attenuation extremum arranged on opposite sides of a first pass band; and

a reception filter for passing the reception signal but cutting off the transmission signal, said reception filter having frequency characteristic exhibiting a second low frequency side attenuation extremum and a second high frequency side attenuation extremum arranged on opposite sides of a second pass band different from said first pass band;

said reception filter as at least one of said transmission filter and said reception filter includes a plurality of thin-film piezoelectric resonators, each of said thin-film piezoelectric resonators having a piezoelectric thin film having piezoelectric characteristic, and a pair of excitation electrodes disposed on opposite surfaces of said piezoelectric thin film for applying an excitation voltage to said piezoelectric thin film; and

the rate of frequency change in accordance with temperature change at a frequency which is one nearer to said first pass band out of a frequency exhibiting said second low frequency side attenuation extremum and a frequency exhibiting said second high frequency

side attenuation extremum is lower than the rate of frequency change in accordance with temperature change at the other frequency exhibiting the other attenuation extremum.

Claim 12 (Original): A duplexer according to Claim 11, wherein said plurality of thin-film piezoelectric resonators in said reception filter are a combination of at least one series resonator and at least one of parallel resonator for forming a ladder-type filter circuit;

said series resonator exhibits said second high frequency side attenuation extremum whereas said parallel resonator exhibits said second low frequency side attenuation extremum;

at least one of said series resonator and said parallel resonator has a temperature compensating layer for bringing the rate of resonant frequency change in accordance with temperature change close to zero; and

the thickness of said temperature compensating layer in said serie resonators is different from the thickness of said temperature compensating layer in said parallel resonators.

Claim 13 (Original): A duplexer according to Claim 12, wherein said temperature compensating layer is made of silicon dioxide.

Claim 14 (Original): A duplexer according to Claim 12, wherein each of said thin-film piezoelectric resonators further includes an acoustic multi-layer film having a plurality of layers different in acoustic impedance and disposed on a surface of one of said excitation electrodes opposite to said piezoelectric thin film so that said excitation electrode is sandwiched between said acoustic multi-layer film and said piezoelectric thin film.

Claim 15 (Original): A duplexer according to Claim 14, wherein part of said plurality of layers in said acoustic multi-layer film serves as part of said temperature compensating layer.

Claim 16 (Currently Amended): A duplexer connected to an antenna, comprising:

a transmission filter for passing a transmission signal but cutting off a reception signal, said transmission filter having frequency characteristic exhibiting a first low frequency side attenuation extremum and a first high frequency side attenuation extremum arranged on opposite sides of a first pass band; and

a reception filter for passing the reception signal but cutting off the transmission signal, said reception filter having frequency characteristic exhibiting a second low frequency side attenuation extremum and a second high frequency side attenuation extremum arranged on opposite sides of a second pass band different from said first pass band;

each of said transmission filter and said reception filter includes a plurality of thin-film piezoelectric resonators, each of said thin-film piezoelectric resonators having a piezoelectric thin film having piezoelectric characteristic, and a pair of excitation electrodes disposed on opposite surfaces of said piezoelectric thin film for applying an excitation voltage to said piezoelectric thin film;

the rate of frequency change in accordance with temperature change at a frequency which is one nearer to said second pass band out of a frequency exhibiting said first low frequency side attenuation extremum and a frequency exhibiting said first high frequency side attenuation extremum is lower than the rate of frequency change in accordance with temperature change at the other frequency; and

the rate of frequency change in accordance with temperature change at a frequency which is one nearer to said first pass band out of a frequency exhibiting said second low

frequency side attenuation extremum and a frequency exhibiting said second high frequency side attenuation extremum is lower than the rate of frequency change in accordance with temperature change at the other frequency exhibiting the other attenuation extremum.

Claim 17 (Original): A duplexer according to Claim 16, wherein said plurality of thin-film piezoelectric resonators in said transmission filter are a combination of at least one of first series resonator and at least one of first parallel resonator for forming a ladder-type filter circuit;

said first series resonator exhibits said first high frequency side attenuation extremum whereas said first parallel resonator exhibits said first low frequency side attenuation extremum;

at least one of said first series resonator and said first parallel resonator has a temperature compensating layer for bringing the rate of resonant frequency change in accordance with temperature change close to zero;

the thickness of said temperature compensating layer in said first series resonator is different from the thickness of said temperature compensating layer in said first parallel resonator;

said plurality of thin-film piezoelectric resonators in said reception filter are a combination of at least one of second series resonator and at least one of second parallel resonator for forming a ladder-type filter circuit;

said second series resonator exhibits said second high frequency side attenuation extremum whereas said second parallel resonator exhibits said second low frequency side attenuation extremum;

at least one of said second series resonator and said second parallel resonator has a temperature compensating layer for bringing the rate of resonant frequency change in accordance with temperature change close to zero; and

the thickness of said temperature compensating layer in said second series resonator is different from the thickness of said temperature compensating layer in said second parallel resonator.

Claim 18 (Original): A duplexer according to Claim 17, wherein said temperature compensating layer is made of silicon dioxide.

Claim 19 (Original): A duplexer according to Claim 17, wherein each of said thin-film piezoelectric resonators further includes an acoustic multi-layer film having a plurality of layers different in acoustic impedance and disposed on a surface of one of said excitation electrodes opposite to said piezoelectric thin film so that said excitation electrode is sandwiched between said acoustic multi-layer film and said piezoelectric thin film.

Claim 20 (Original): A duplexer according to Claim 19, wherein part of said plurality of layers in said acoustic multi-layer film serves as part of said temperature compensating layer.